

AMENDMENT TO THE CLAIMS:

Please add new claims 30 -32 as follows.

1. (Previously presented) A method for ablating a volume of tissue in a patient comprising the steps of:

(a) inserting a first support shaft through the patient's skin, the first support shaft having an electrically insulated outer surface;

(b) the first support shaft being inserted with a second support shaft through the patient's skin;

(c) radially extending at least three electrode tips in a first electrode set from the first support shaft at a first position along the first support shaft to three respective radial points defining a first plane surrounding the first support shaft, wherein the first position is spaced a distance from a center of the volume of tissue to be ablated, and wherein the second support shaft has a portion at a second position that is axially displaced by a predetermined distance from the first position, wherein the predetermined axial displacement is determined prior to use by a physician;

(d) radially extending at least three electrode tips in a second electrode set from the axially displaced portion of the second support shaft to three respective radial points defining a second plane surrounding the second support shaft at the second position, wherein the second plane is opposite the first plane by a predetermined separation through the tissue to define a three-dimensional volume of tissue to be ablated; and

(e) in response to bipolar power being applied to the first electrode set and to the second electrode set, causing current flow between the first plane and the second plane and through the three-dimensional volume of tissue; and

(f) wherein a portion of the first support shaft and the second support shaft that extends from the first position to the second position is insulated so as not to drain current from the volume of tissue being ablated.

2. (Previously presented) The method of claim 1, wherein the first and second electrode sets are umbrella electrode sets having at least three radially extensible electrode wires.

3. (Previously presented) The method of claim 2 wherein the three radially extending electrode tips in the first electrode set are aligned with corresponding radially extending electrode tips in the second electrode set.

4. (Previously presented) The method of claim 3, wherein the power is applied in an energy spectrum substantially concentrated in frequencies below 100 kHz.

5. (Previously presented) The method of claim 1, wherein each of the first and second electrode sets includes electrode wires carrying the electrode tips that are selectively extendable from the support shaft.

6. (Previously presented) The method of claim 5, further comprising the step of monitoring a temperature level at each of the electrode wires.

7. (Previously presented) The method of claim 1, wherein the steps of radially extending the electrode tips in the first and second electrode sets comprises radially extending wires of the first and second electrode sets to radial points separated by substantially equal angles.

8. (Previously presented) The method of claim 1, wherein the first and second electrode sets are provided by tripartite electrodes, and the steps of radially extending the first and second sets of electrode tips comprise radially extending the tripartite electrode tips such that each of the tips in the tripartite electrode is offset from another of the tips in the tripartite electrode by substantially one hundred and twenty degrees, and the tips in a first one of the tripartite electrodes are aligned with respective ones of the tips in a second one of the tripartite electrodes.

9. (Previously presented) The method of claim 6, further comprising the step of controlling a voltage applied between the first and second electrode sets of to maintain the temperature within a predetermined temperature range.

10. (Canceled).

11. (Canceled).

12. (Canceled).

13. (Previously presented) The method of claim 3, wherein the power is applied in an energy spectrum substantially concentrated in frequencies below 10 kHz.

14. (Canceled).

15. (Canceled).

16. (Previously presented) An electrode assembly for ablating tumors in a patient comprising:

(a) a shaft configuration comprising a first support shaft and a second support shaft, the first support shaft having an electrically insulated outer surface;

(b) a first electrode set having at least three electrode tips radially extensible from the first support shaft at a first position to three respective radial points defining a first plane surrounding the first support shaft;

(c) a second electrode set having at least three electrode tips radially extensible from the second support shaft to three respective radial points defining a second plane surrounding the second support shaft at a second position that is axially displaced along the first support shaft from the first position by a predetermined distance, said predetermined distance being predetermined in a kit before insertion into the patient by a physician, wherein the second plane is opposite the first plane and is separated from the first plane by a predetermined separation to define a three-dimensional volume of tissue to be ablated between the first plane and the second plane; and

(d) wherein when bipolar power is applied to the first electrode set and to the second electrode set, electrical current flows between the first plane and the second plane and through the three-dimensional volume of tissue; and

wherein a portion of the shaft configuration that extends from the first position to the second position is insulated so as not to drain current from the volume of tissue being ablated.

17. (Previously presented) The electrode assembly of claim 16, wherein each of the first and second electrode sets further comprises at least three electrode wires.

18. (Original) The electrode assembly of claim 16, further comprising at least one temperature sensor coupled to each of the first and second electrode sets.

19. (Previously presented ) The electrode assembly of claim 17, further comprising a controller connected to the temperature sensor to receive temperature level signals from each of the first and second electrode sets and to the first and second sets to control the applied power level as a function of the temperature level.

20. (Previously presented) The electrode assembly of claim 19, wherein the electrode wires in each of the first and second electrode sets are electrically isolated, a temperature sensor is coupled to each of the electrode wires, and the controller monitors the temperature at each of the electrode wires and individually controls the power applied to the electrode wires.

21. (Original) The electrode assembly of claim 20, wherein the wires in the first electrode set are axially aligned with the electrode wires in the second electrode set.

22. (Previously presented) The electrode assembly of claim 20, wherein each of the electrode wires in each electrode set are spaced at substantially equal angles around the support shaft.

23-27 (Canceled)

28. (Previously presented) The electrode assembly of claim 16, wherein the first support shaft has a tubular metal inner portion and an insulated outer portion and wherein the second support shaft has a tubular metal inner portion and an insulated outer portion and wherein the first support shaft is disposed within the second support shaft to provide a concentric tube configuration.

29. (Original) The electrode assembly of claim 16, wherein the first support shaft is positioned in a side-by-side configuration with the second support shaft.

30. (New) An electrode assembly for ablating tumors in a patient, the assembly comprising:

a shaft configuration sized for percutaneous placement, said shaft configuration having at least one outer surface extending to a distal tip;

first and second wire electrode sets extensible radially from the shaft configuration to an extension radius, the first wire electrode set being positionable at a first location adjacent to a tumor volume and offset axially along the support shaft from the second wire electrode set, which second wire electrode set is positionable at a second location offset from the first location about the tumor volume, the first and second electrode set each comprising three wires positionable at angularly offset radial points around the shaft configuration;

a power supply connectable between the first and second electrode sets such that current induced heating in the tumor volume is concentrated; and

wherein the shaft configuration has an electrically insulating outer cover on the outer surface between the first and second locations, said cover extending to the distal tip of the shaft configuration.

31. (New) The electrode assembly of claim 30, wherein the shaft configuration comprises a first support shaft having a tubular metal inner portion and an insulated outer portion and a second support shaft having a tubular metal inner portion and an insulated outer portion and wherein the first support shaft is disposed within the second support shaft to provide a shaft configuration with concentric tubular portions.

32. (New) The electrode assembly of claim 30, wherein the shaft configuration comprises a first support shaft that is positioned in a side-by-side configuration with a second support shaft and wherein the shaft configuration is sized for percutaneous placement before being placed in a patient by an axial offset of the first wire electrode set from the second wire electrode set.